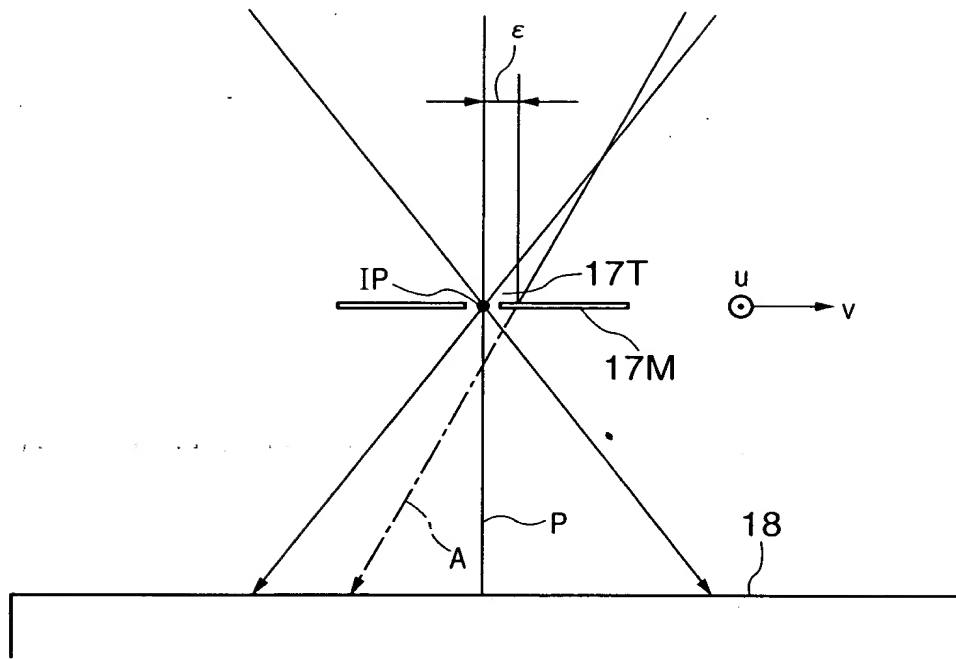
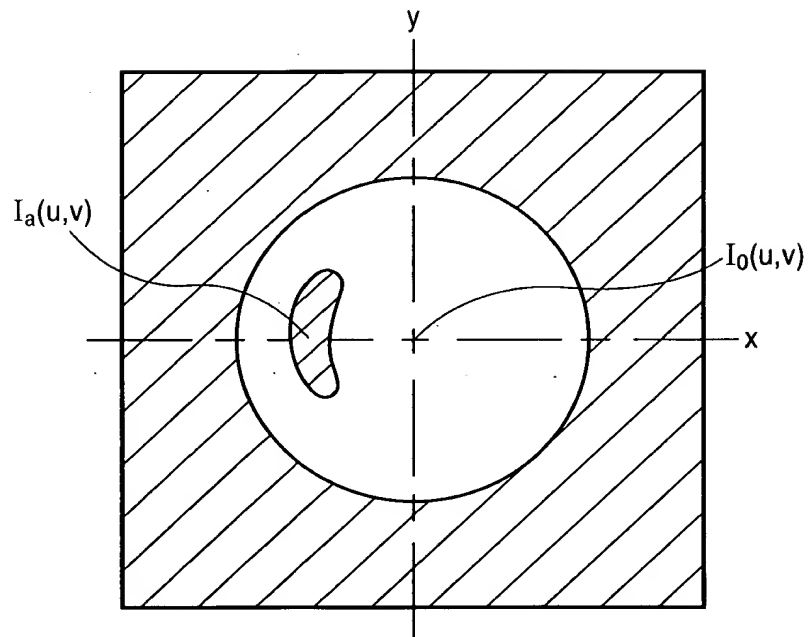


FIG. 1



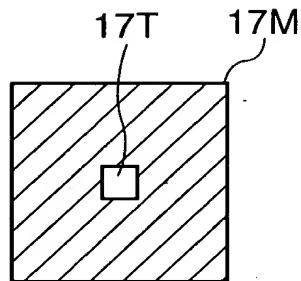
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FIG. 2



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FIG. 3



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FIG. 4A

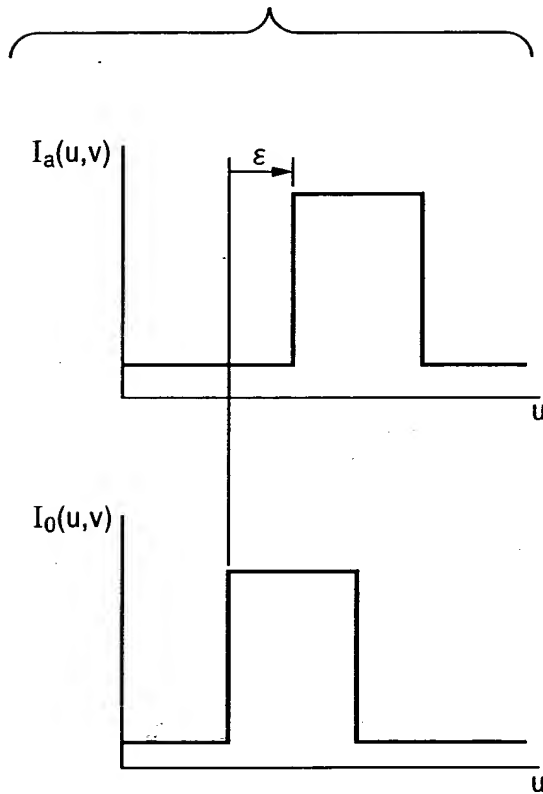
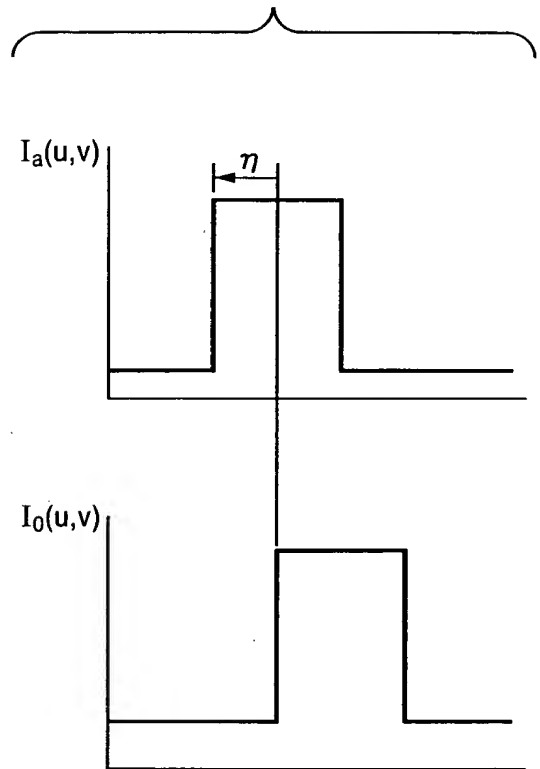
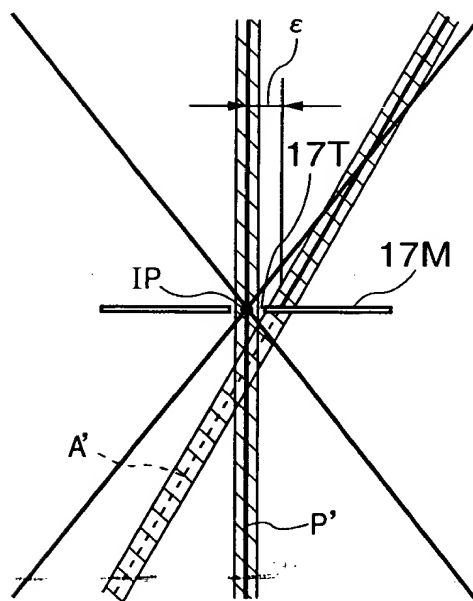


FIG. 4B



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FIG. 5



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FIG. 6A

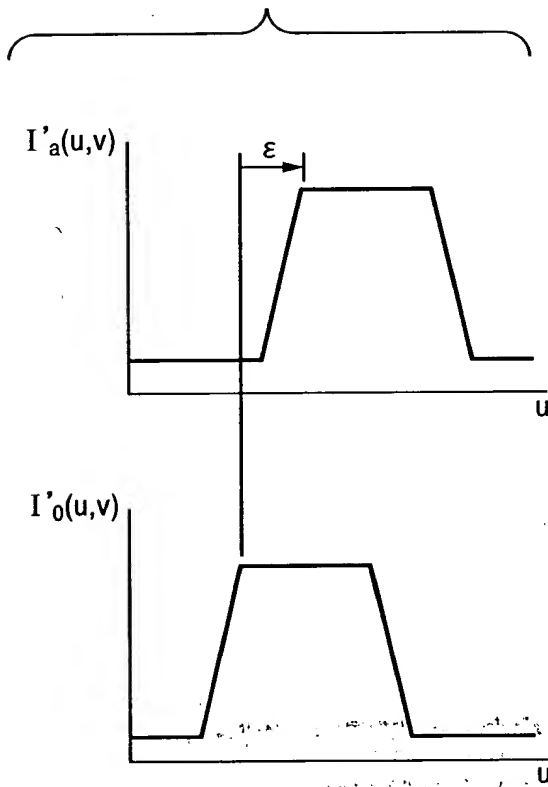
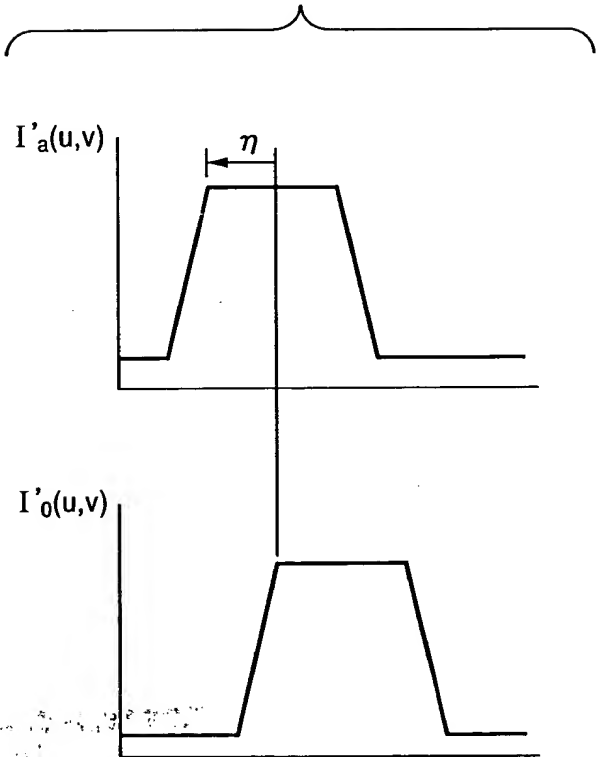
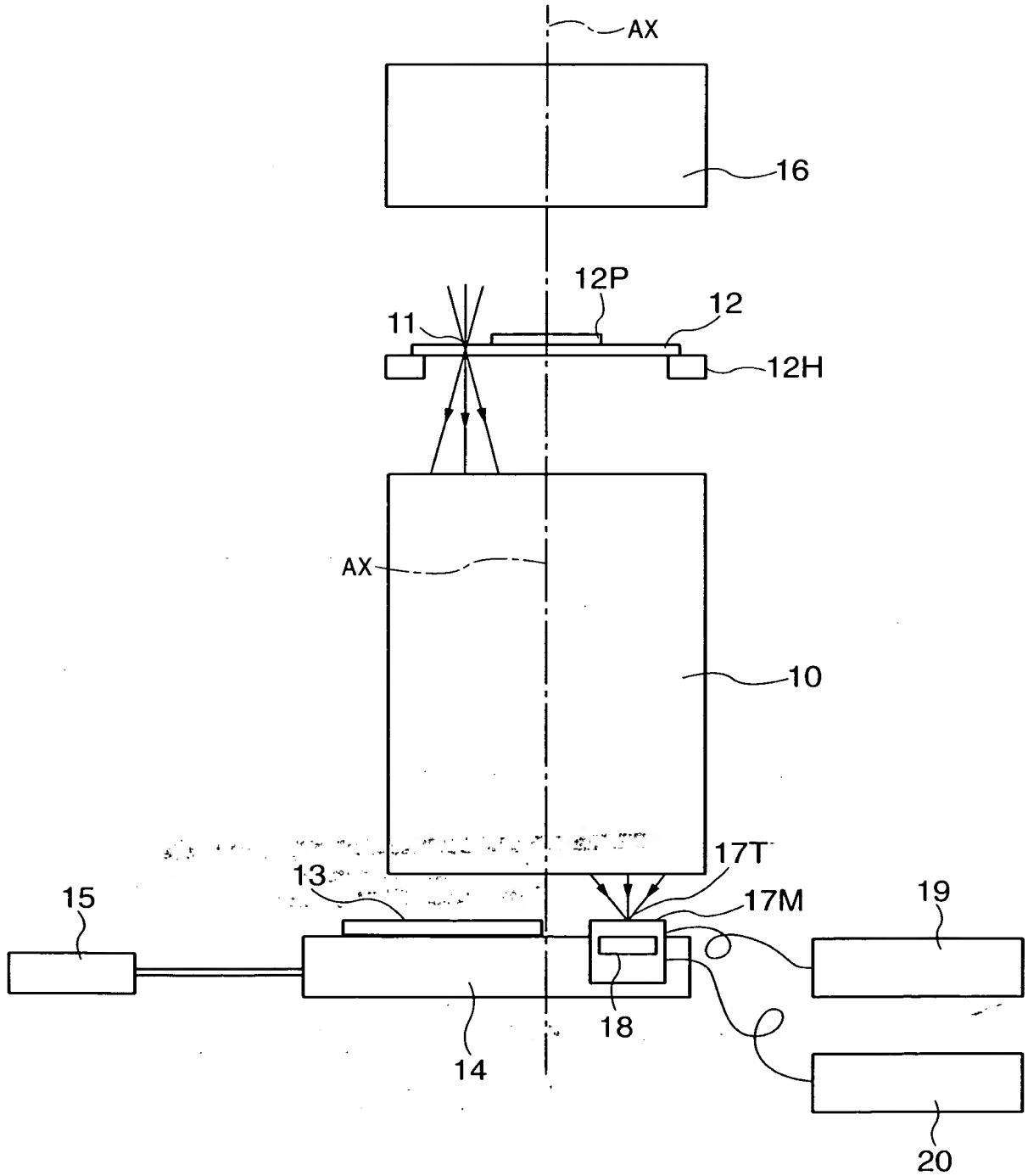


FIG. 6B



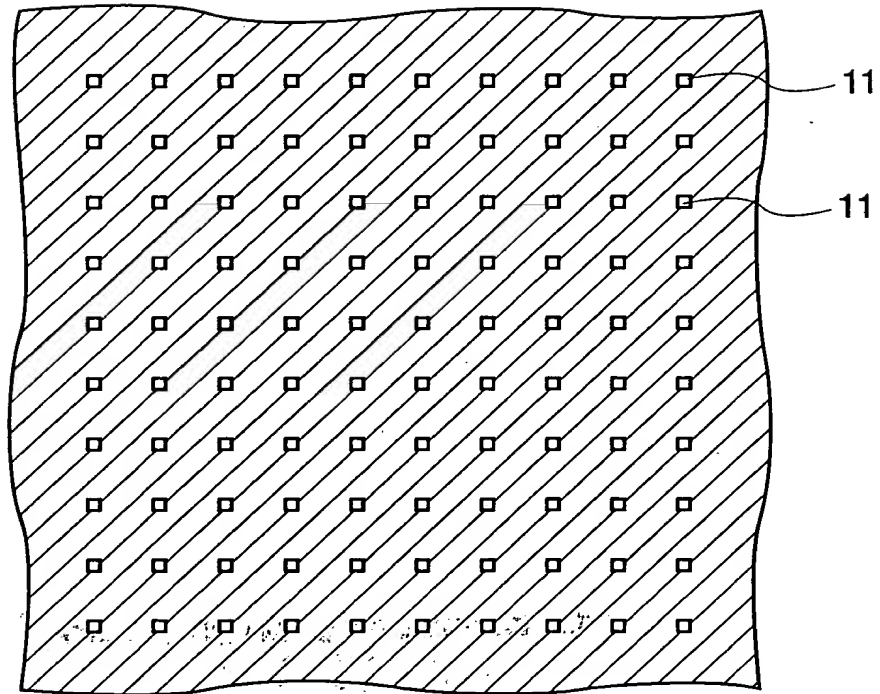
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FIG. 7



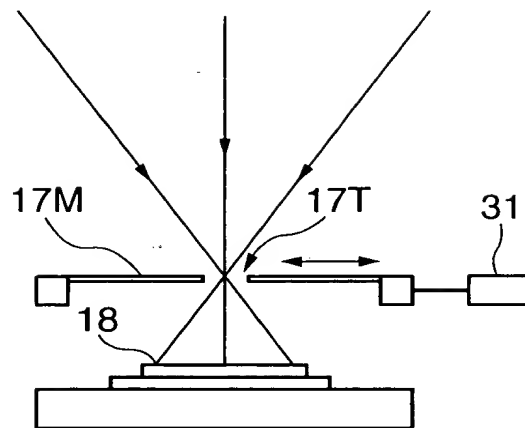
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FIG. 8



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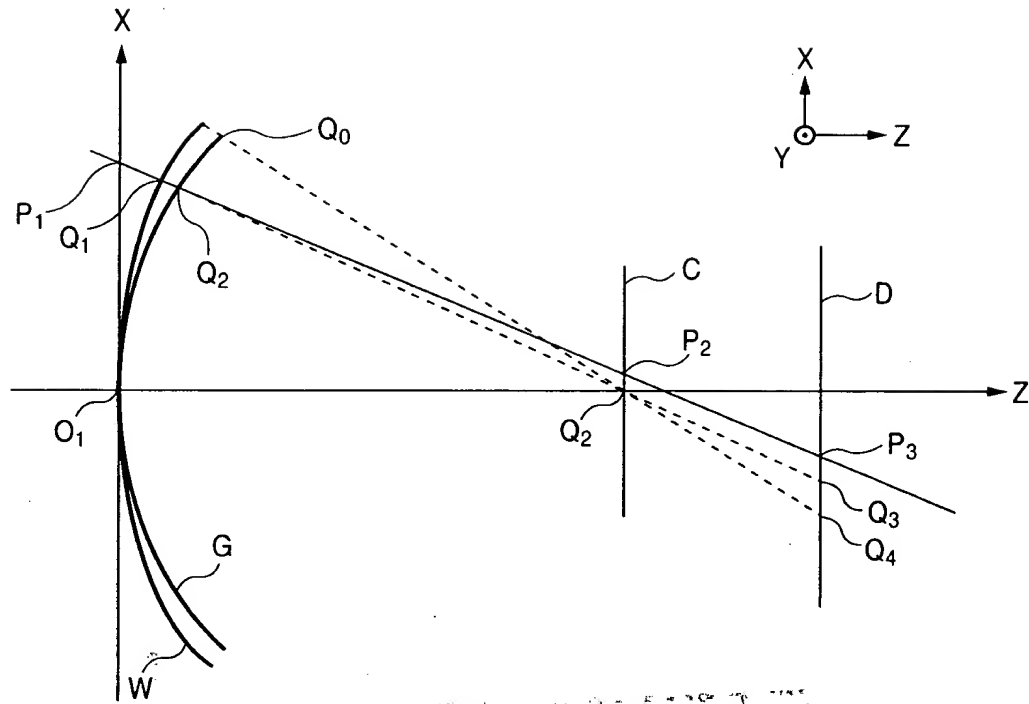
FIG. 9



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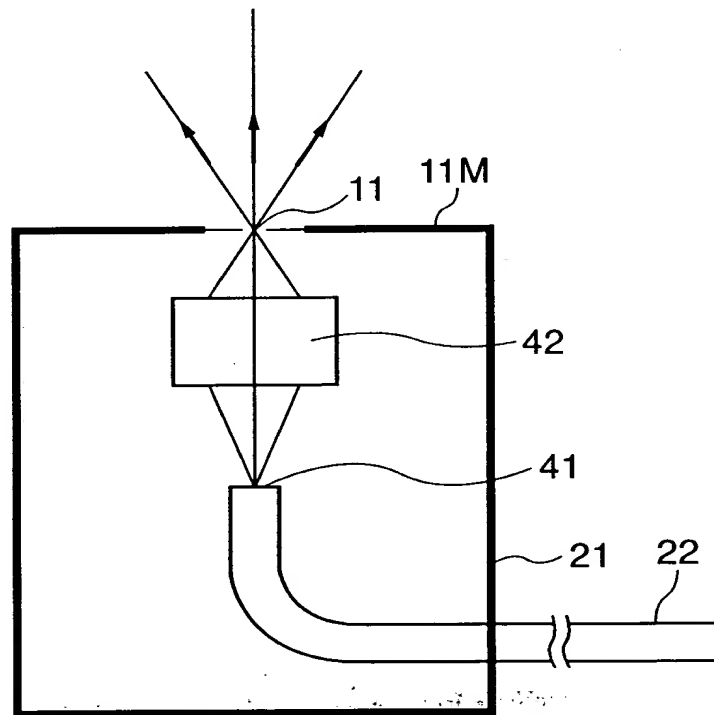
FIG. 10

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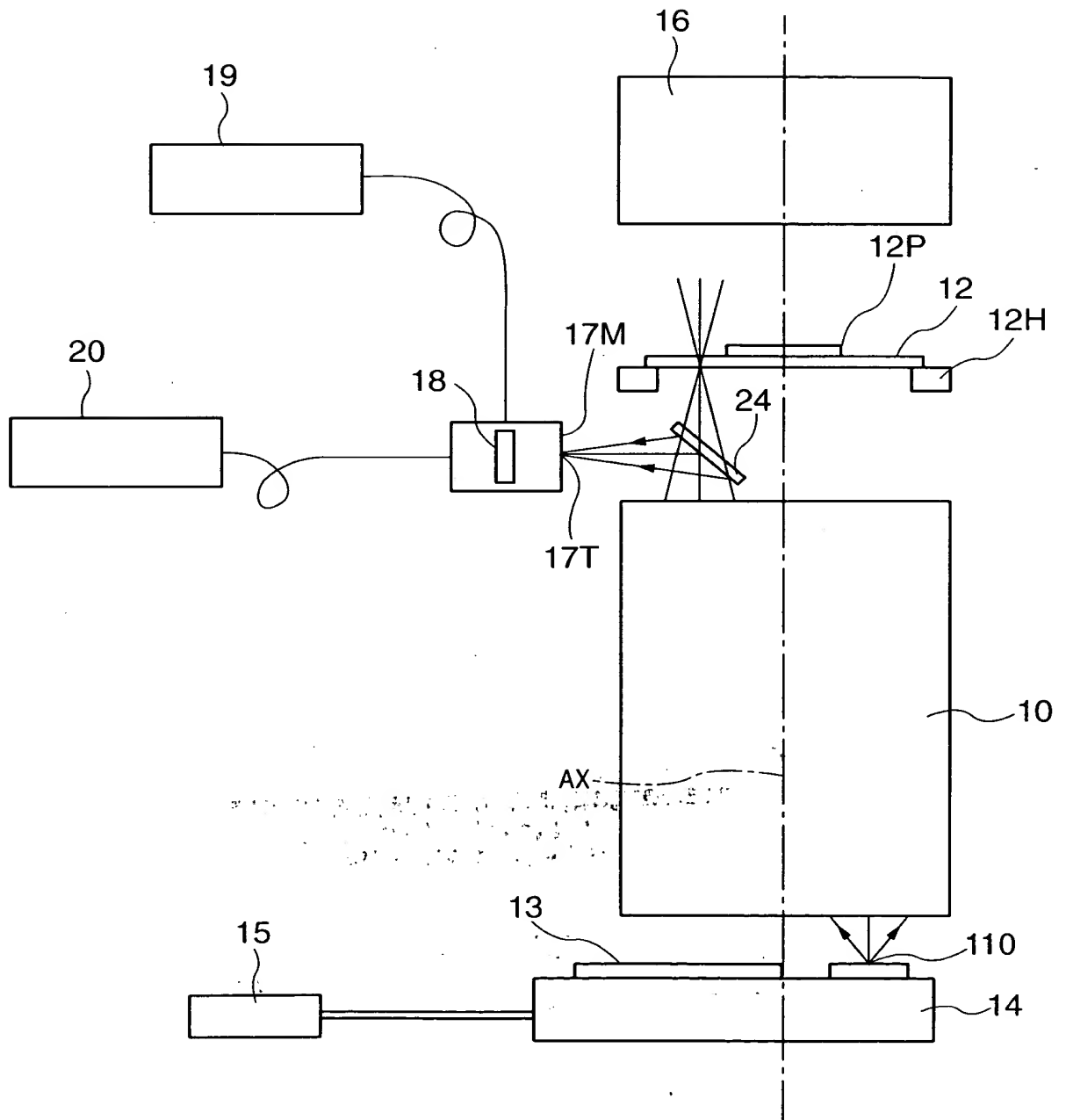
The schematic diagram illustrates a laser light source system. A laser resonator (10) is shown with an upper mirror (12) and a lower mirror (11). The upper mirror (12) includes a polarizing beam splitter (12P) and a half-wave plate (12H). A dichroic mirror (23) is positioned to reflect light from the resonator. A light source (16) is connected to the system. A control unit (18) is connected to the laser resonator (10) and the light source (16). The control unit (18) is also connected to a power supply (19) and a control unit (20). A light source (15) is connected to the laser resonator (10) via a waveguide (14). A light source (21) is connected to the laser resonator (10) via a waveguide (13). A light source (22) is connected to the laser resonator (10) via a waveguide (22).

FIG. 12



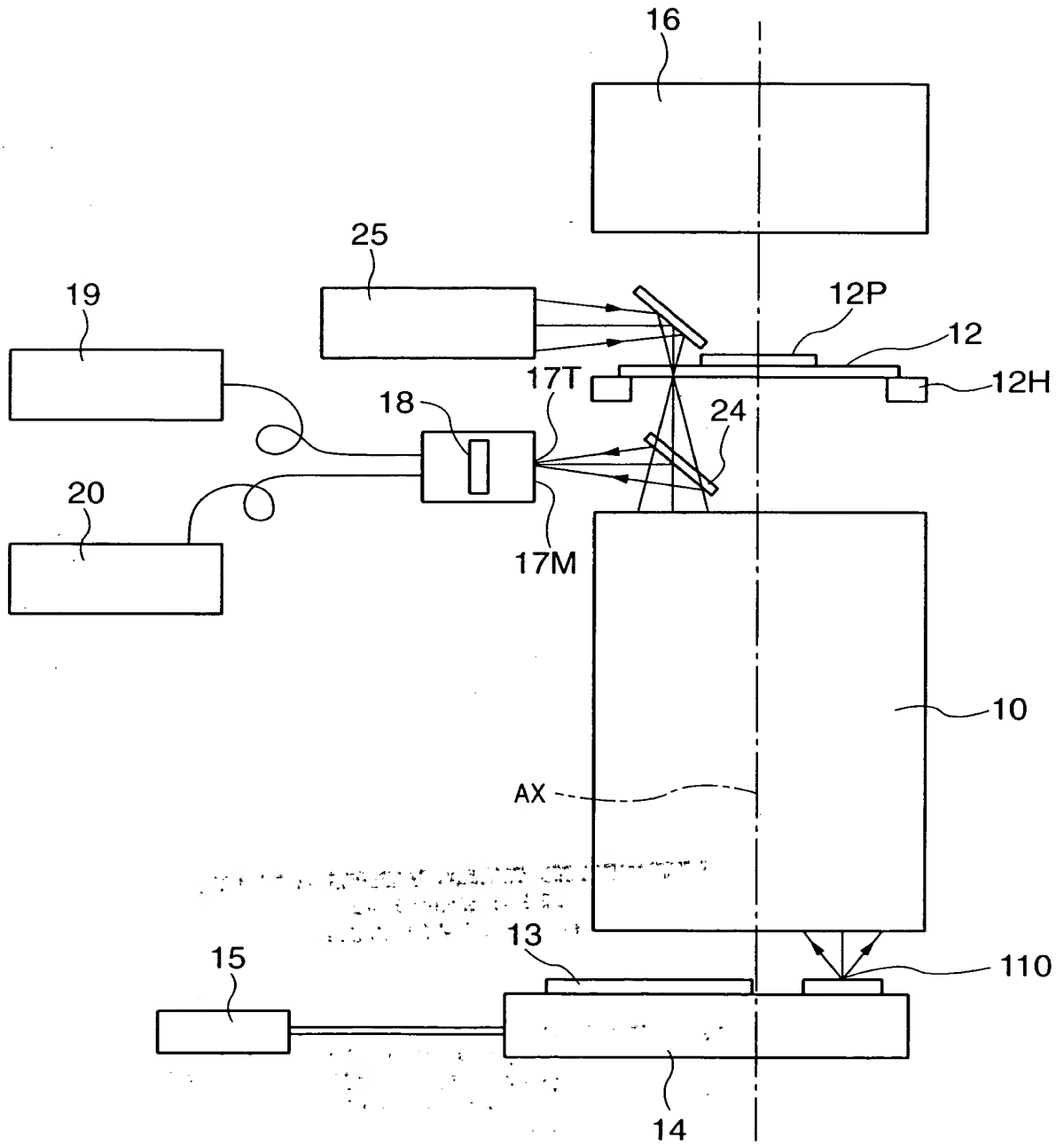
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FIG. 13



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FIG. 14



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FIG. 15

$$\varepsilon = \left(1 + \frac{\Delta R}{R}\right) \cdot \frac{R}{H_0} \cdot \frac{\partial \Phi}{\partial x} = \left(1 + \frac{\Delta R}{R}\right) \cdot \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial x} \dots\dots\dots (3)$$

$$\eta = \left(1 + \frac{\Delta R}{R}\right) \cdot \frac{R}{H_0} \cdot \frac{\partial \Phi}{\partial y} = \left(1 + \frac{\Delta R}{R}\right) \cdot \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial y} \dots\dots\dots (4)$$

$$\alpha = \left(1 + \frac{\Delta L}{L}\right) \cdot \frac{L}{R} \cdot \frac{R}{H_0} \cdot \frac{\partial \Phi}{\partial x} = \left(1 + \frac{\Delta L}{L}\right) \cdot \frac{L}{R} \cdot \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial x} = \frac{L \left(1 + \frac{\Delta L}{L}\right)}{R \left(1 + \frac{\Delta R}{R}\right)} \cdot \varepsilon \dots\dots\dots (5)$$

$$\beta = \left(1 + \frac{\Delta L}{L}\right) \cdot \frac{L}{R} \cdot \frac{R}{H_0} \cdot \frac{\partial \Phi}{\partial y} = \left(1 + \frac{\Delta L}{L}\right) \cdot \frac{L}{R} \cdot \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial y} = \frac{L \left(1 + \frac{\Delta L}{L}\right)}{R \left(1 + \frac{\Delta R}{R}\right)} \cdot \eta \dots\dots\dots (6)$$

FIG. 16

$$X'' = X' + \alpha \dots\dots\dots (7)$$

$$Y'' = Y' + \beta \dots\dots\dots (8)$$

$$\frac{X}{H_0} = \frac{X'}{H'_0} = x \dots\dots\dots (9)$$

$$\frac{Y}{H_0} = \frac{Y'}{H'_0} = y \dots\dots\dots (10)$$

$$x = \frac{X''}{H'_0} - \frac{\alpha}{H'_0} \dots\dots\dots (11)$$

$$y = \frac{Y''}{H'_0} - \frac{\beta}{H'_0} \dots\dots\dots (12)$$

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FIG. 17

$$\frac{\Delta R}{R} \ll 1 \dots\dots\dots (13)$$

$$\frac{\Delta L}{L} \ll 1 \dots\dots\dots (14)$$

$$\frac{\alpha}{H'_0} = \frac{1}{H'_0} \cdot \frac{L}{R} \cdot \varepsilon \ll 1 \dots\dots\dots (15)$$

$$\frac{\beta}{H'_0} = \frac{1}{H'_0} \cdot \frac{L}{R} \cdot \eta \ll 1 \dots\dots\dots (16)$$

$$\varepsilon(x,y) = \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial x} \dots\dots\dots (3')$$

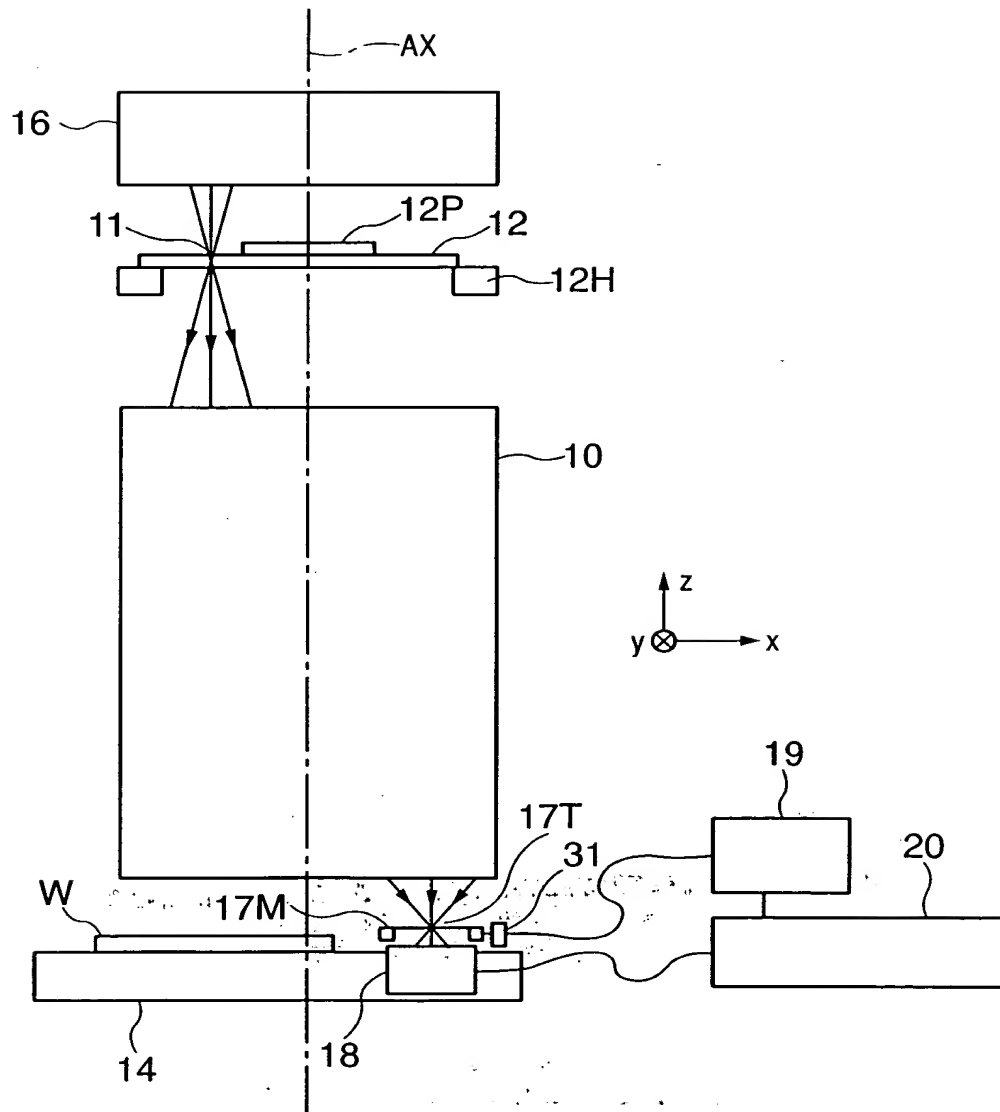
$$\eta(x,y) = \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial y} \dots\dots\dots (4')$$

$$x = \frac{X''}{H'_0} \dots\dots\dots (11')$$

$$y = \frac{Y''}{H'_0} \dots\dots\dots (12')$$

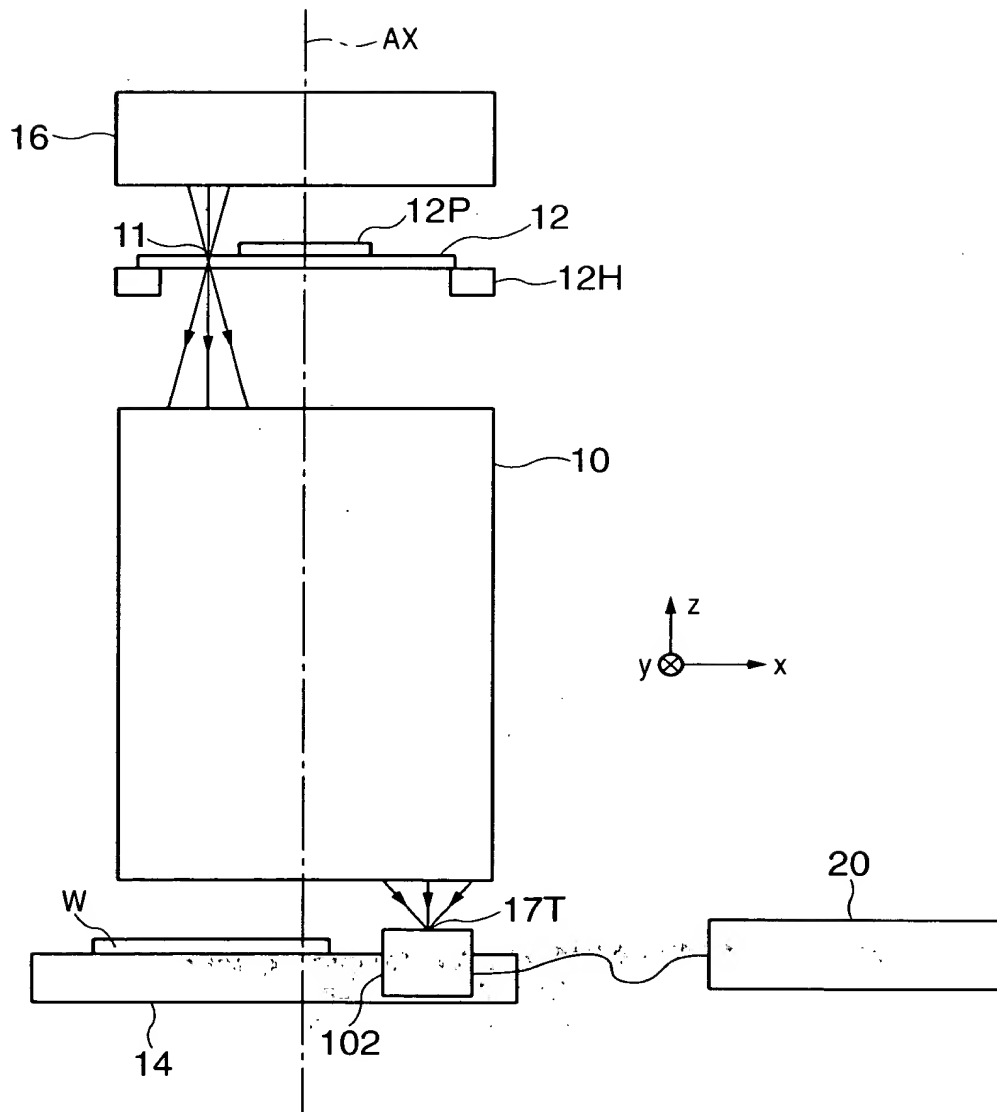
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FIG. 18



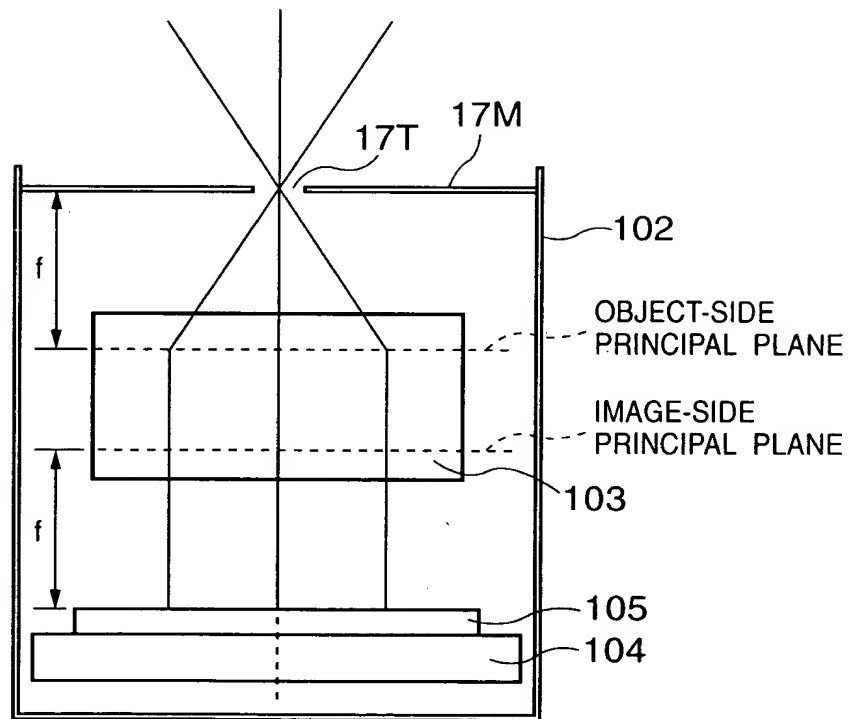
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FIG. 19



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FIG. 20



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FIG. 21

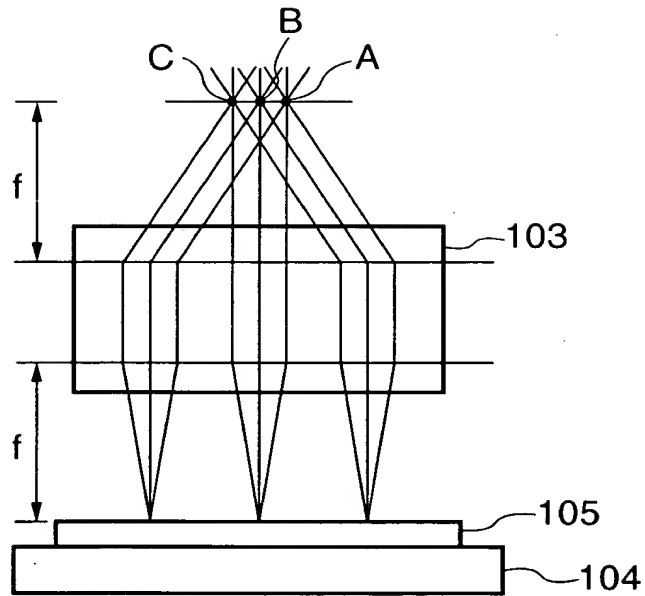
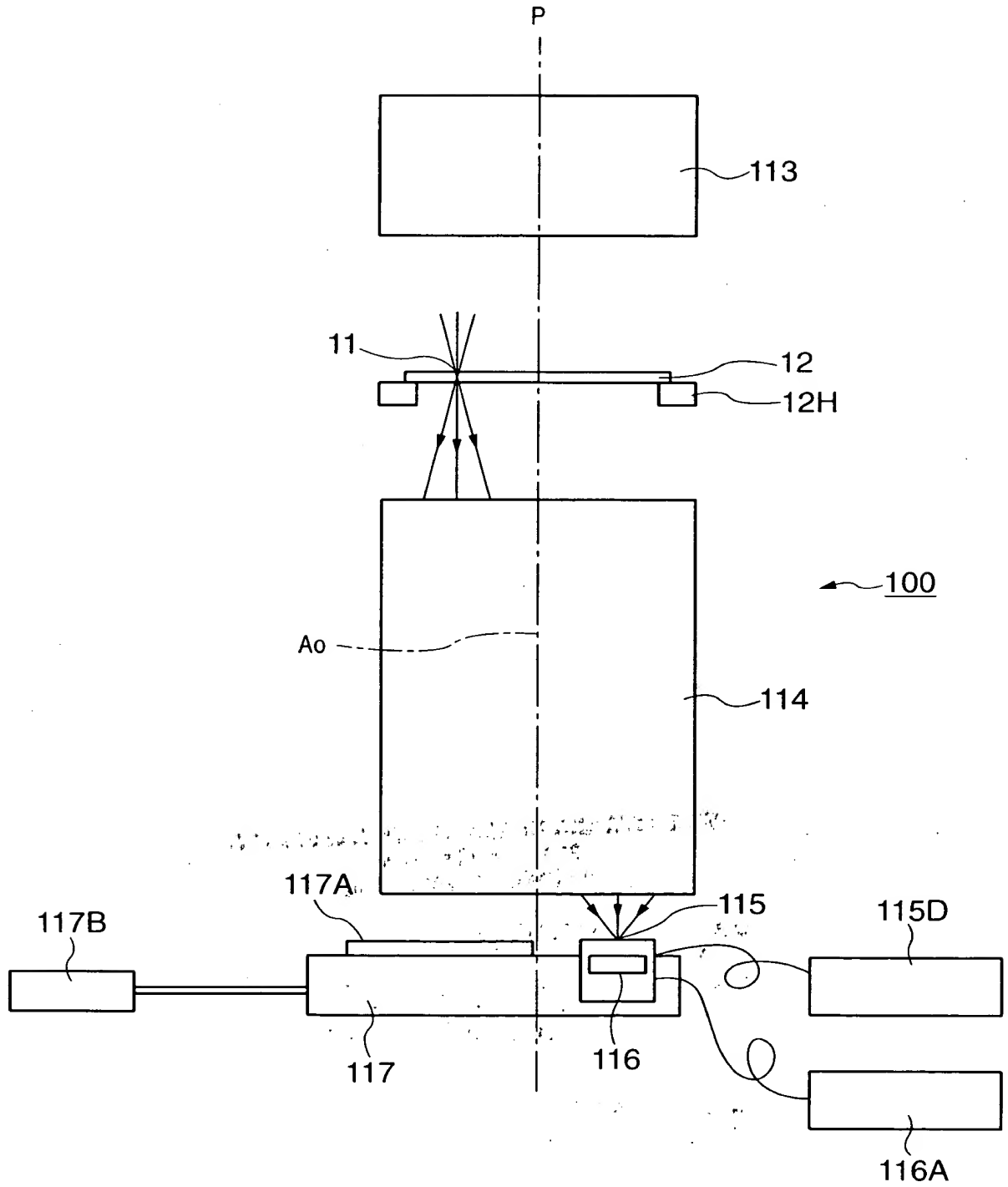


FIG. 21 is a schematic diagram of an optical system. The system includes a light source (101) that emits light rays (102) which pass through a lens (103) and are focused onto a substrate (104) via a layer (105). The distance between the lens (103) and the substrate (104) is denoted by f .

The light rays (102) are focused onto the substrate (104) at a point (106) which is located at a distance f from the lens (103).

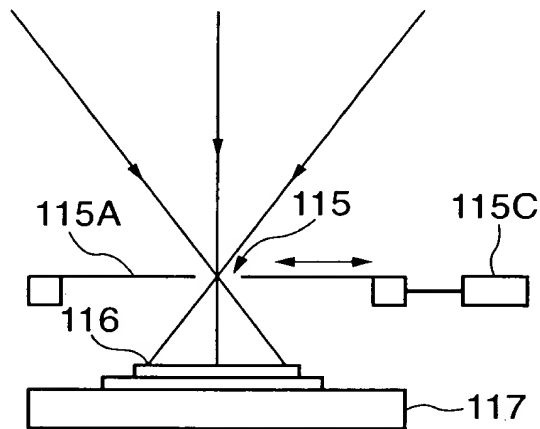
The substrate (104) is a thin layer of material that is used to support the lens (103) and the layer (105).

FIG. 22



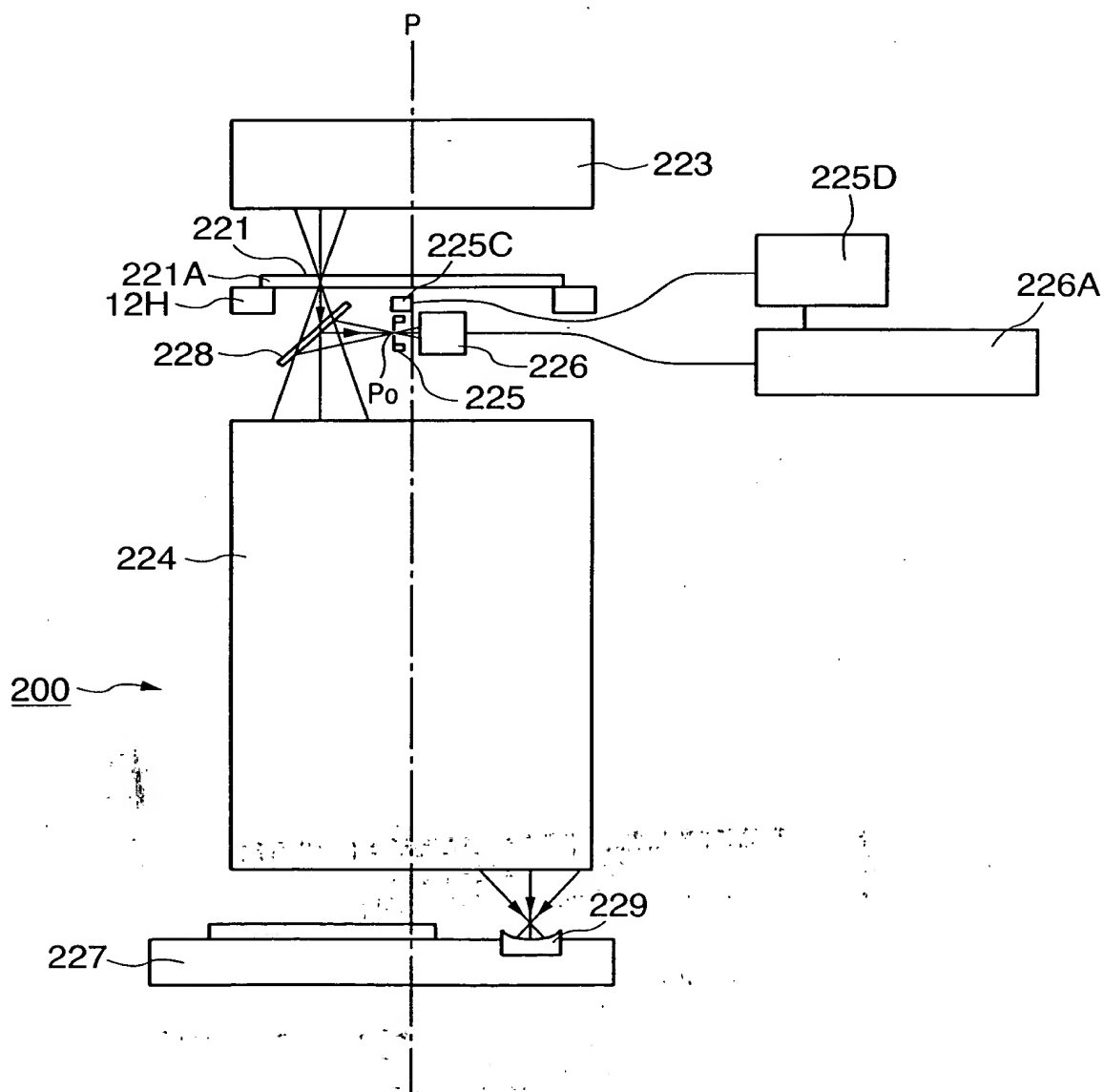
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FIG. 23



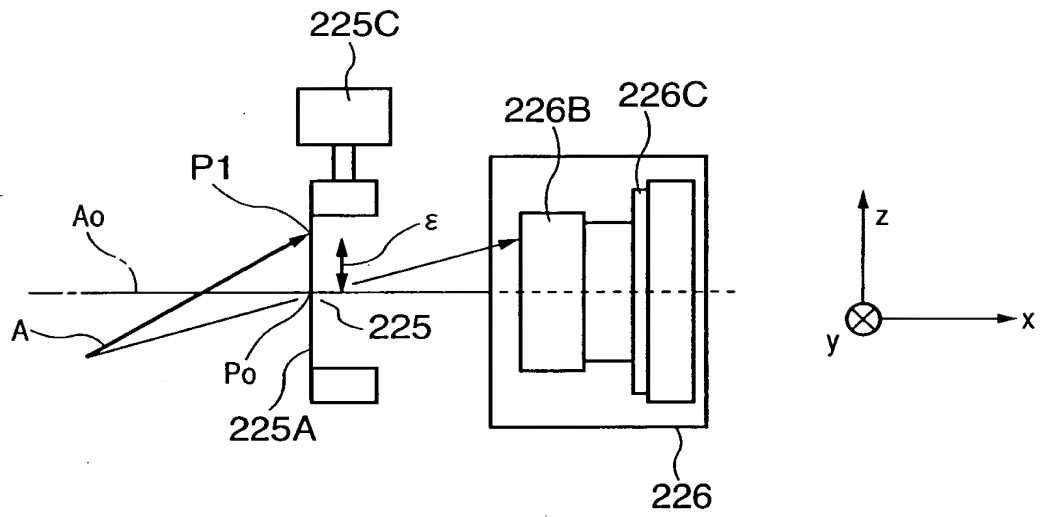
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FIG. 24



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FIG. 25



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FIG. 26A

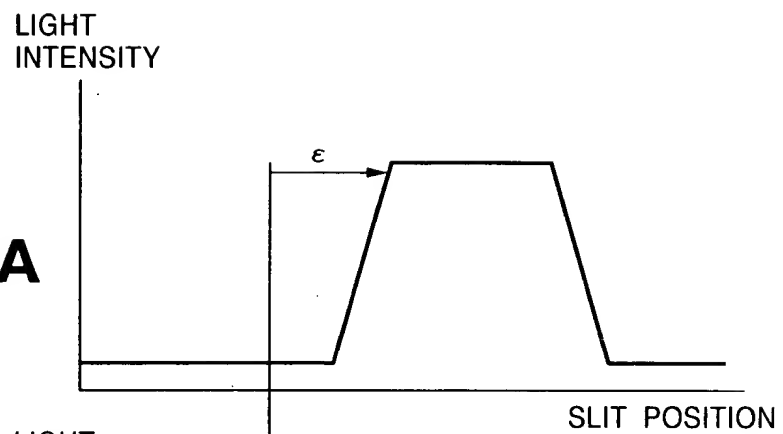
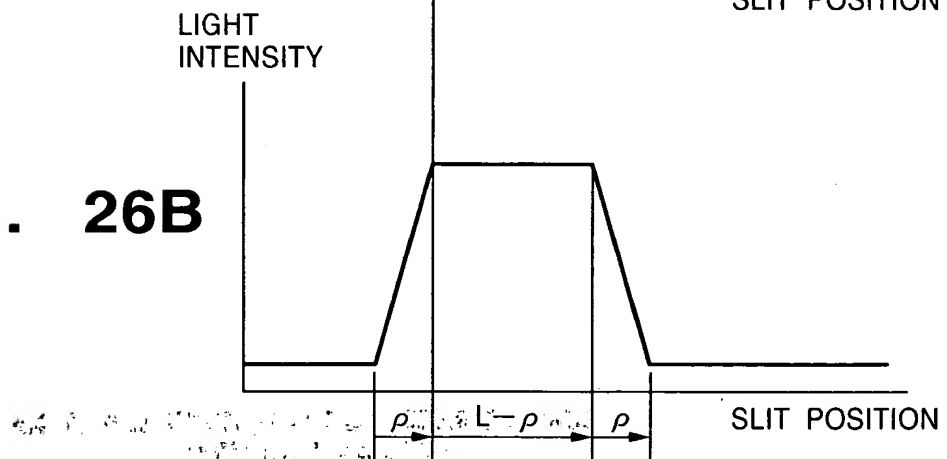


FIG. 26B



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FIG. 27

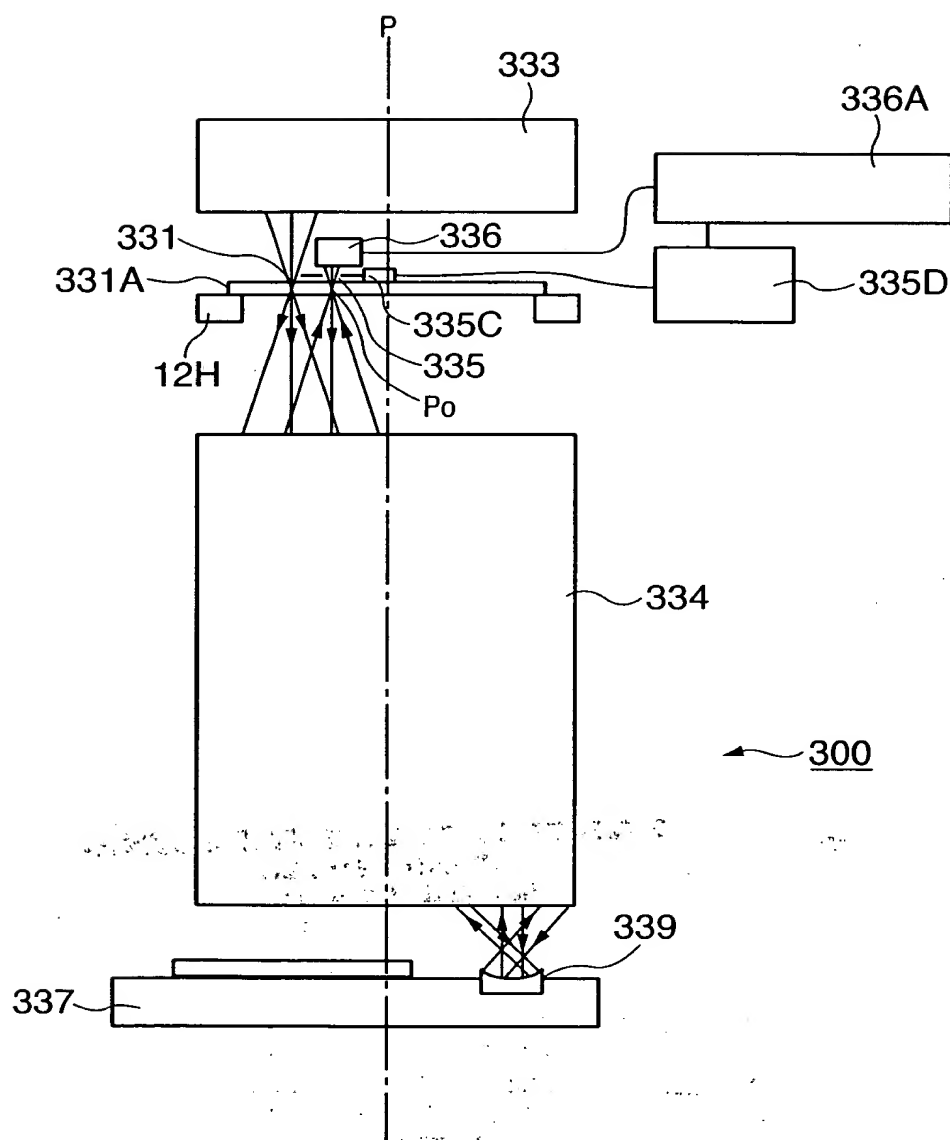
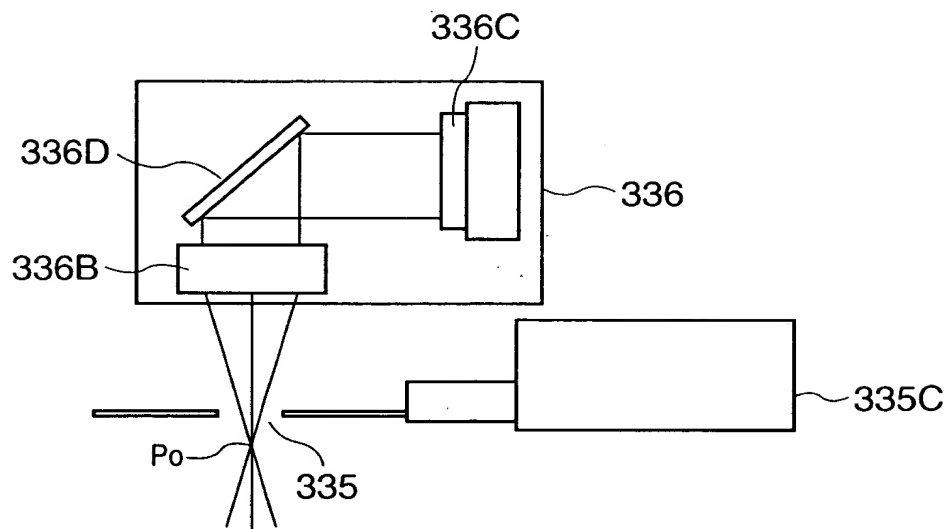
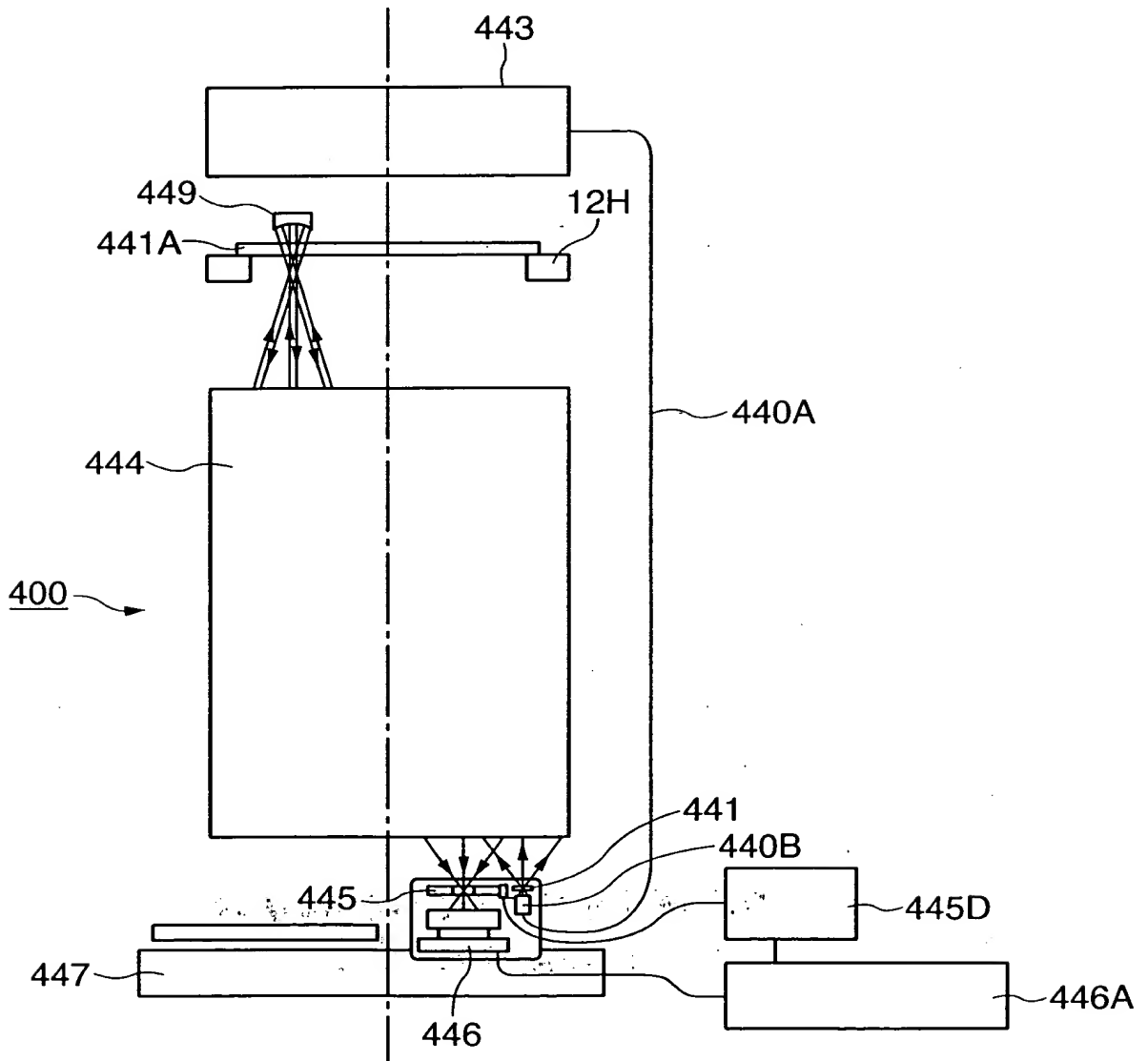


FIG. 28



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FIG. 29



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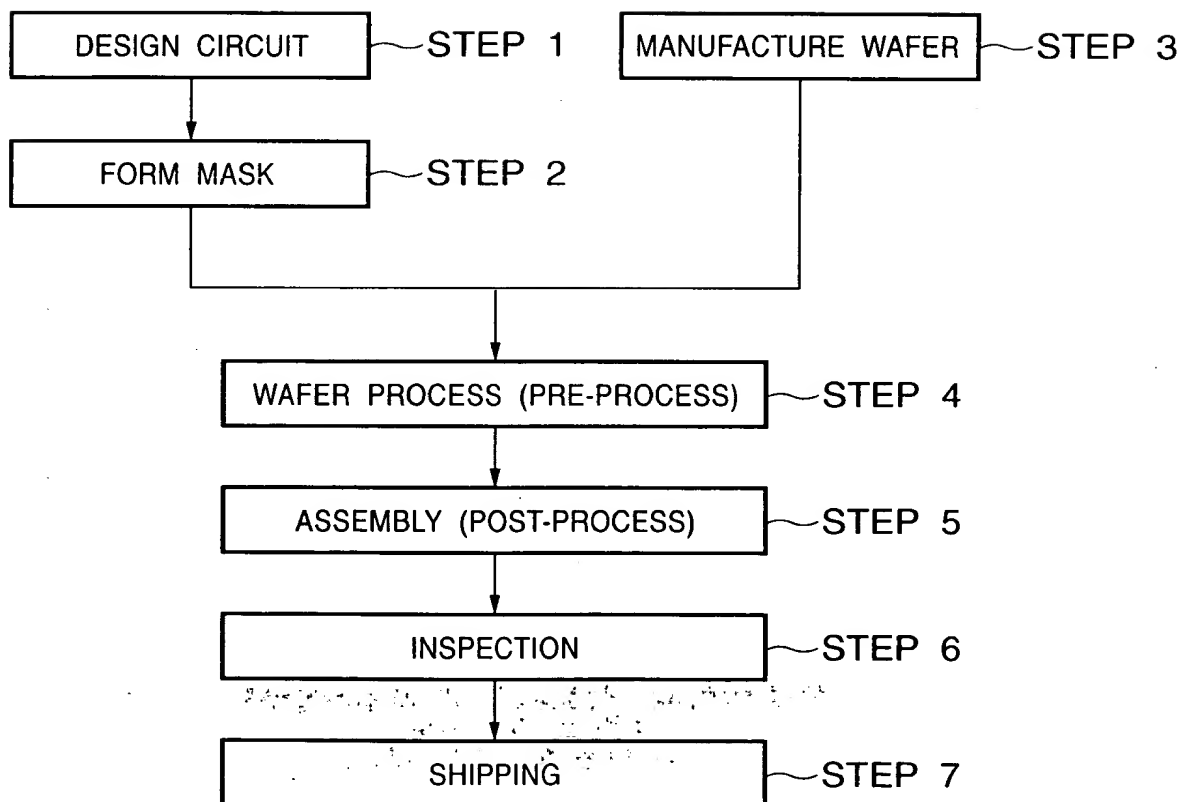
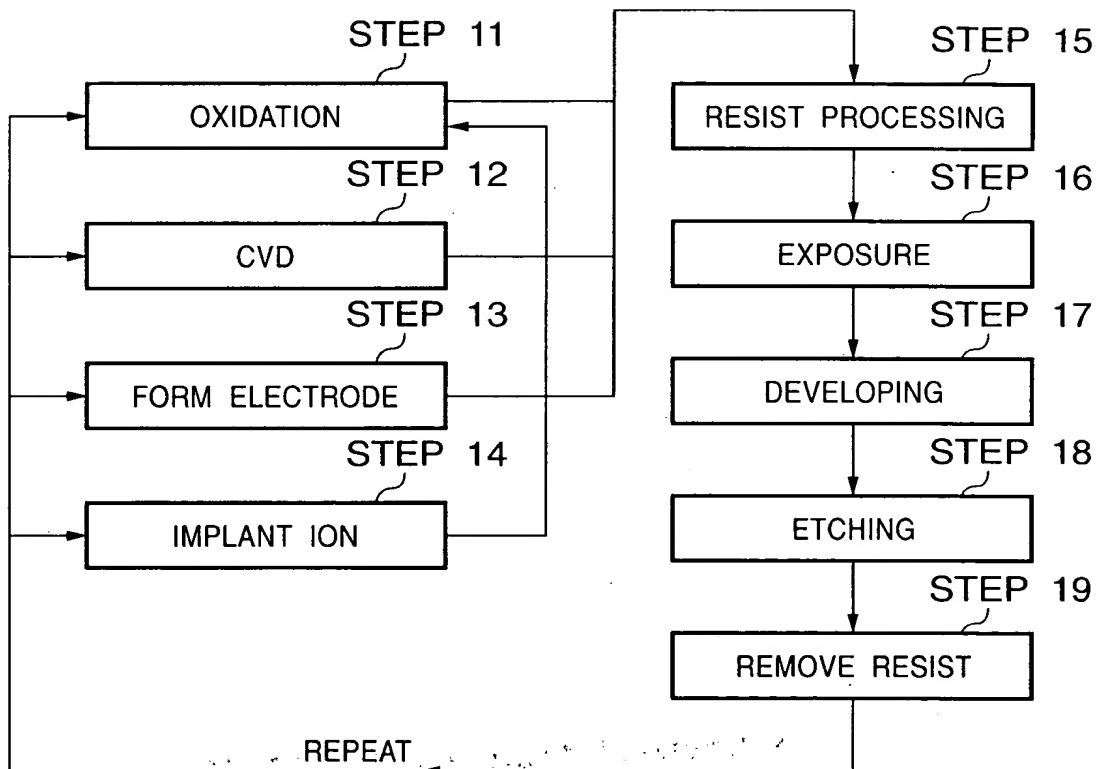
FIG. 30

FIG. 31



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